D4165-1

**Work Order ID 106396** B106396 *106396* Page 1

*August-29-13 1:38:50 PM*

**Item ID:** D4165-1 **Accept** *N900040100* **Setup Start** *NS1*
**Revision ID:** **Stop** *NS2*
**Item Name:** Doubler

**Start Date:** 9/05/13 **Start Qty:** 4.00 *4*
**Required Date:** 9/05/13 **Req'd Qty:** 4.00 *4*
**Reference:**

**Cust Item ID:**
**Customer:**

**Run Start** *NR1*
**Stop** *NR2*

**Approvals:** **Process Plan:** MCS **Date:** 13-08-30 **Tooling:** _____ **Date:** _____
**QC:** _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|---|---|---|---|---|---|---|---|---|---|
| **Draw Nbr** / **Revision Nbr**: D4165 / B | | | | | | | | | |
| 100 | | 0.00 | | | | | | | |
| *100* | | | | | | 4 | 0 | | JM13-11-25 |
| Waterjet | **Memo** | 0.00 | | | | | | | |
| FLOW CNC Waterjet | 1-Cut as per Dwg<br>Dwg Rev: B<br>Prog Rev: B<br>2-Deburr if necessary | | | | | | | | |
| 110 | QC2- Inspect parts off machine FAI/FAIB | 0.00 | | | | | | | |
| *110* | | | | | | 4 | 0 | | JM13-11-25 |
| QC | **Memo** | 0.00 | | | | | | | |
| Quality Control | | | | | | | | | |

DQA: _____ Date: _____

NCR: Yes / No

# WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

**DISPOSITION**

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

**AGAINST DEPARTMENT/PROCESS**

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

| Root Cause | | Date | Step | Qty | Description of work order update or Non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|---|---|---|---|---|---|---|---|---|---|---|
| Doc/Data | ☐ | | | | | | | | | |
| Equip/Tooling | ☐ | | | | | | | | | |
| Operator | ☐ | | | | | | | | | |
| Material | ☐ | | | | | | | | | |
| Setup | ☐ | | | | | | | | | |
| Other | ☐ | | | | | | | | | |
| Process | ☐ | | | | | | | | | |
| Supplier | ☐ | | | | | | | | | |
| Training | ☐ | | | | | | | | | |
| Unapproved | ☐ | | | | | | | | | |

**FAULT CATEGORY**

**Landing Gear**

- ☐ Bending
- ☐ Centre Not Concentric to O/S
- ☐ Cracks
- ☐ Crushed/Crimped
- ☐ Cuffs
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

**General**

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damaged
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

_____

_____

_____

**Item ID:** D4165-1 **Accept** *N900040100* **Setup Start** *NS1*
**Revision ID:** **Stop** *NS2*
**Item Name:** Doubler
**Start Date:** 9/05/13 **Start Qty:** 4.00 *4* **Cust Item ID:**
**Required Date:** 9/05/13 **Req'd Qty:** 4.00 *4* **Customer:**
**Reference:**

**Run Start** *NR1*
**Stop** *NR2*

**Approvals:** **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
**QC:** _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

| Sequence ID/ Work Center ID | Operation Description | Set Up/ Run Hours | Tool ID | Tool # | Plan Code | Accept Qty | Reject Qty | Reject Number | Insp. Stamp |
|---|---|---|---|---|---|---|---|---|---|
| 120 *120* QC Quality Control | QC8- Inspect parts - second check<br>**Memo** | 0.00<br>0.00 | | | | 4 | | | |
| 130 *130* HandFinish Hand Finishing | Chemical Conversion Coat per QSI005 4.1<br>**Memo** | 0.00<br>0.00 | | | | 4 | 4G | B-11-28 | |
| 135 *135* QC Quality Control | QC3- Inspect Part Finish<br>**Memo** | 0.00<br>0.00 | | | | 4 | | | |

DAS 27 9-89 B11125

DAS 27 9-89 B11128

DQA: _____ Date: _____

NCR: Yes / No

# WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

**DISPOSITION**

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

**AGAINST DEPARTMENT/PROCESS**

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

| Root Cause | | Date | Step | Qty | Description of work order update or Non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|---|---|---|---|---|---|---|---|---|---|---|
| Doc/Data | ☐ | | | | | | | | | |
| Equip/Tooling | ☐ | | | | | | | | | |
| Operator | ☐ | | | | | | | | | |
| Material | ☐ | | | | | | | | | |
| Setup | ☐ | | | | | | | | | |
| Other | ☐ | | | | | | | | | |
| Process | ☐ | | | | | | | | | |
| Supplier | ☐ | | | | | | | | | |
| Training | ☐ | | | | | | | | | |
| Unapproved | ☐ | | | | | | | | | |

**FAULT CATEGORY**

**Landing Gear**

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- ☐ Turning Sequence
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**General**

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- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
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- ☐ Pressure/Forced
- ☐ Temperature/Cure
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- ☐ Wrong Stock Pulled
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**Item ID:** D4165-1 **Accept** *N900040100* **Setup Start** *NS1*
**Revision ID:** **Stop** *NS2*
**Item Name:** Doubler

**Start Date:** 9/05/13 **Start Qty:** 4.00 *4*
**Required Date:** 9/05/13 **Req'd Qty:** 4.00 *4*
**Reference:**

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**Run Start** *NR1*
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|---|---|---|---|---|---|---|---|---|---|
| 140 | Identify as per dwg & Stock Location ST206 | 0.00 | | | | | | | |
| *140* | | | | | | 4K | | 13-11-28 | |
| Packaging | **Memo** | 0.00 | | | | | | | DAS 26 9-89 |
| Packaging | | | | | | | | | |
| 150 | QC21- Final Inspection - Work Order Release | 0.00 | | | | | | | |
| *150* | | | | | | | | | |
| QC | **Memo** | 0.00 | | | | | | | |
| Quality Control | | | | | | | | | |

13/12/02

MF 13-11-29

DQA: _____ Date: _____

NCR: Yes / No

# WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

**DISPOSITION**

- Rework ☐
- Scrap ☐
- Use-as-is ☐
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| Equip/Tooling | ☐ | | | | | | | | | |
| Operator | ☐ | | | | | | | | | |
| Material | ☐ | | | | | | | | | |
| Setup | ☐ | | | | | | | | | |
| Other | ☐ | | | | | | | | | |
| Process | ☐ | | | | | | | | | |
| Supplier | ☐ | | | | | | | | | |
| Training | ☐ | | | | | | | | | |
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- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other _____

# Picklist Print

*August-29-13 1:38:49 PM*



**Work Order ID:** 106396
**Parent Item:** D4165-1
**Parent Item Name:** Doubler

**Start Date:** 9/05/13 **Required Date:** 9/05/13
**Start Qty:** 4.00 **Required Qty:** 4.00

**Comments:** IPP Rev:A 11.03.09 new issue DD verf:EC

| Component Item ID/ Item Name | Replacement Item ID | Mfg/ Purch | Bin Item | Primary Location | Last Location | Route Seq ID | Unit of Measure | Qty on Hand | Qty per Kit | Total Qty | Qty Issued | Date Issued | Status |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **M2024T3S.040**<br>2024-T3 .040 sheet | | Purchased | No | | | 100 | sf | 293.1377 | **0.353** | ~~1.4863156~~ 1.5 | | JMR 3-11-25 | |

| Location | Loc Qty | Loc Code |
|---|---|---|
| MAT022 | 293.1376922 | |
| 120605 | 65.8254832 | |
| 121197 | 57.187894 | |
| 122136 | 31.78 | |
| 123217 | 20.094315 | |
| 124987 | 118.25 | |

127582

127582.

DQA: _____ Date: _____

NCR: Yes / No

# WORK ORDER NON-CONFORMANCE / UPDATE

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| Equip/Tooling | ☐ | | | | | | | | | |
| Operator | ☐ | | | | | | | | | |
| Material | ☐ | | | | | | | | | |
| Setup | ☐ | | | | | | | | | |
| Other | ☐ | | | | | | | | | |
| Process | ☐ | | | | | | | | | |
| Supplier | ☐ | | | | | | | | | |
| Training | ☐ | | | | | | | | | |
| Unapproved | ☐ | | | | | | | | | |

**FAULT CATEGORY**

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- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
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- ☐ Maintenance
- ☐ Mislabeled
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- ☐ Offset
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- ☐ Over/Under tolerance
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- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

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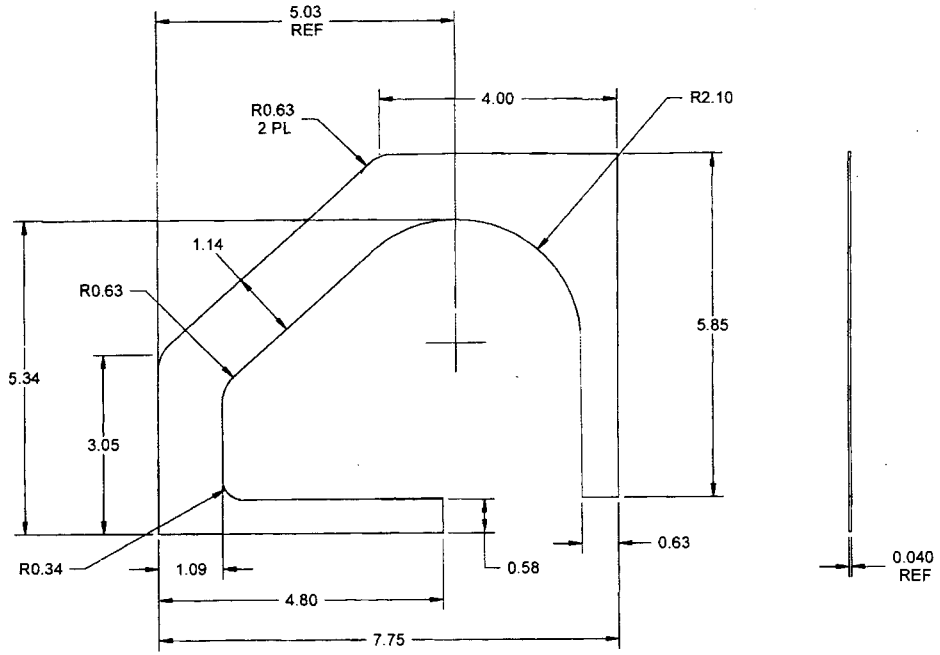
| DART AEROSPACE LTD | Work Order: | 106396 |
|---|---|---|
| | | |
| Description: Doubler | Part Number: | D4165-1 |
| | | |
| Inspection Dwg: D4165 Rev: B | | Page 1 of 1 |

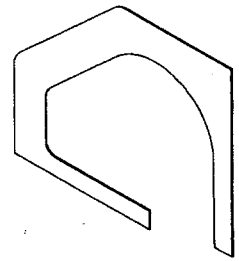
## FIRST ARTICLE INSPECTION CHECKLIST

| Drawing Dimension | Tolerance | Actual Dimension | Accept | Reject | Method of Inspection | Comments |
|---|---|---|---|---|---|---|
| 5.34 | +/-0.030 | 5.34" | – | | V | JM01 |
| 3.05 | +/-0.030 | 3.05" | – | | V | |
| 1.09 | +/-0.030 | 1.09" | | | V | |
| 4.80 | +/-0.030 | 4.80" | – | | V | |
| 7.75 | +/-0.030 | 7.756" | – | | V | |
| 0.58 | +/-0.030 | 0.582" | – | | V | |
| 0.63 | +/-0.030 | 0.637" | – | | V | |
| 5.85 | +/-0.030 | 5.852" | – | | V | |
| 4.00 | +/-0.030 | 4.00" | – | | V | |
| 5.03 | +/-0.030 | 5.03" | – | | V | |
| 0.040 | +/-0.010 | 0.040" | – | | V | |
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| Measured by: | Jm | Audited by: | DAS 27 9-89 | Preliminary Approval: | |
|---|---|---|---|---|---|
| Date: | 13-11-25 | Date: | B 11 25 | Date: | |

| Rev | Date | Change | Revised by | Approved |
|---|---|---|---|---|
| A | 11.04.28 | New Issue | KJ | |



106396
MCJ
13-08-30

RELEASED
2011-04-15
WP

**D4165-1 DOUBLER**

NOTES:
1) MATERIAL: 2024-T3 ALUMINUM SHEET, 0.040 THICK
QQ-A-250/4 OR AMS-QQ-A-250/4
OR AMS 4037
OR ASTM B209
PER DART SPEC M2024T3S.040
2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
7) WEIGHT: 0.07 lbs

| REV. | DESCRIPTION | BY | DATE |
|---|---|---|---|
| B | CORRECTED BEND ORIENTATION ON D4165-9 (ZN C1-5) | RF | 11.04.11 |
| A | NEW ISSUE | RF | 10.11.22 |

| | | | |
|---|---|---|---|
| DESIGN | RF | DART AEROSPACE LTD<br>HAWKESBURY, ONTARIO, CANADA | |
| DRAWN | RF | | |
| CHECKED | | DRAWING NO. D4165 | REV. B |
| MFG. APPR. | | | SHEET 1 OF 7 |
| APPROVED | | TITLE VRD PARTS | SCALE NTS |
| DE APPR. | | | |
| DATE | 11.04.11 | | |

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